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REMARKS

Claims 1-25 are currently pending in the subject application and are presently under consideration. Claims 7, 8 and 22 have been cancelled. Claims 1, 2, 9, 10, 12, 16, 17, 18 and 23 have been amended. Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claims 1-25 Under 35 U.S.C. §103(a)

Claims 1-25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Mori *et al.* (U.S. Patent No. 6,611,728). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Mori *et al.* does not teach or suggest applicants' invention as recited in the subject claims.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Independent claim 1 (and similarly independent claims 12, 17 and 23) has been amended herein to recite regulating *reticle* temperature wherein a plurality of sensors proximally sense temperature characteristics of the *semiconductor reticle*, including during an exposure cycle. A control system is employed to *proactively control* the exposing source based on the temperature information. Mori *et al.* does not teach or suggest such claimed features of the subject invention.

In particular, Mori *et al.* does not teach or suggest regulating a *semiconductor reticle* temperature. Rather, Mori *et al.* discloses detection of the temperature of a *mask and/or wafer*. "[t]he mask and/or wafer increases during the exposure cycle..." (Abstract). "...the temperature of the mask and/or wafer is detected." (Abstract). Thus,

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Mori *et al.* does not contemplate and there is no mention of monitoring and controlling the temperature characteristics of a *semiconductor reticle*, as recited in the subject claims.

Additionally, Mori *et al.* does not disclose a control system which is *proactively operative* to control the exposure source based on received temperature information. Rather, Mori *et al.* discloses, a "... *predetermined* temperature ..." threshold for controlling the exposure source (*e.g.*, col. 3, line 56; col. 4, lines 15-16; col. 5, line 11; col. 5, lines 15-16) (emphasis added), a "... *predetermined* range ..." (col. 5, lines 24-25) and "... a *predetermined* amount ..." (col. 5, line 54). In other words, Mori *et al.* can only control by *reacting* to a given *predetermined* temperature. Thus, Mori *et al.* does not correlate the temperatures sensed; past, present and in different zones; and *proactively control* the exposure source (see page 13, lines 1-10) as recited in the subject claims.

Accordingly for at least the above-mentioned reasons, Mori *et al.* does not make obvious the claimed subject invention as recited in independent claims 1, 12, 17 and 23 (and claims 2-11, 13-16, 18-22, and 24-25 which respectively depend therefrom) and this rejection should be withdrawn.

II. Rejection of Claims 1-25 Under 35 U.S.C. §102(b)

Claims 1-25 stand rejected under 35 U.S.C. §102(b) as being anticipated by Levinson *et al.* (U.S. Patent No. 6,098,408). It is respectfully requested that this rejection be withdrawn for at least the following reason. Levinson *et al.* does not teach or suggest each and every element of the subject claims.

A single prior art reference anticipates a patent claim only if it expressly or inherently describes each and every limitation set forth in the patent claim. *Trintec Industries, Inc., v. Top-U.S.A. Corp.*, 295 F.3d 1292, 63 U.S.P.Q.2D 1597 (Fed. Cir. 2002); *See Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the ... claim.

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Richardson v. Suzuki Motor Co., 868 F.2d 1226, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Independent claim 1 (and similarly independent claims 12, 17 and 23) recites a system for regulating reticle temperature wherein a plurality of sensors proximally sense temperature characteristics of the semiconductor reticle, including *during an exposure cycle*. A control system receives temperature information from the sensors and proactively *controls the exposing source* based on such temperature information. Thus, as recited in the claimed subject invention, maintaining a desired reticle temperature requires that the *exposing source* is controlled. Levinson *et al.* does not teach or suggest such claimed features of the subject invention.

More particularly, Levinson *et al.* does not teach or suggest a control system that monitors and *controls the exposing source* to regulate a reticle temperature, as recited in the subject claims. Rather, Levinson *et al.* discloses a "reticle temperature is monitored by [a] system and...*thermoelectric coolers* are selectively driven by the system so as to maintain a reticle temperature at a desired level." (col.2, lines 39-44). Thus, Levinson *et al.* is not concerned with *regulating an exposure cycle* as it relates to reticle temperature. Instead, the prior art describes a control system that compensates the heating of the reticle via a cooling system.

Additionally, since Levinson *et al.* does not contemplate controlling the exposure cycle, it does not teach or suggest utilizing a plurality of temperature sensors during an exposure cycle employed to proactively *control the exposing source* based on temperature information from the sensors. Levinson *et al.* is concerned solely with the regulation of reticle temperature as it relates to the "*thermoelectric coolers*" as disclosed in Levinson *et al.* "The processor *controlling...at least one thermoelectric cooler* so as to regulate temperature of at least the portion of the reticle." (col.2, lines 50-53). "the processor *controlling...at least one thermoelectric cooler* so as to regulate temperature of at least a portion of the wafer." Thus, Levinson *et al.* discloses the *control of solely thermoelectric coolers* and does *not contemplate the control of the exposure source* as recited in the subject claims.

In view of at least the above, it is readily apparent that Levinson *et al.* does not anticipate the subject invention as recited in independent claims 1, 12, 17, and 23 (and

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claims 2-11, 13-16, 18-22, and 24-25 which respectively depend therefrom). Accordingly, withdrawal of this rejection is respectfully requested.

III. Rejection of Claims 1-25 Under 35 U.S.C. §102(b)

Claims 1-25 stand rejected under 35 U.S.C. §102(b) as being anticipated by Miyai *et al.* (U.S. Patent No. 5,581,324). It is respectfully requested that this rejection be withdrawn for at least the following reason. Miyai *et al.* does not teach or suggest each and every element of the subject claims.

As noted above, independent claim 1 (and similarly independent claims 12, 17 and 23) recites a control system that *controls the exposing source* based on temperature information gathered from a plurality of sensors that proximally sense the temperature characteristics of a semiconductor reticle *during an exposure cycle*. Miyai *et al.* does not teach or suggest such claimed features of the subject invention.

In particular, Miyai *et al.* does not teach or suggest a control system that monitors and *controls the exposing source* to regulate a reticle temperature, as recited in the subject claims. Rather, Miyai *et al.* discloses a control system for calculating the change amount of the imaging state caused by the change in temperature, and a correction system for *correcting the change in the imaging state*. Thus, the *exposing source is not controlled by the control system* as recited in the subject claims. Instead, Miyai *et al.* contemplates making corrections to the imaging state by moving lens elements, reticle location, *etc.* Such *corrections are made after the exposure cycle has occurred* since temperature induced mask deformation cannot occur until after the mask has been exposed. Thus, Miyai *et al.* does not teach or suggest a control system that monitors and *controls the exposing source* based on information received from a plurality of temperature sensors as recited in the claimed subject invention.

Moreover, Miyai *et al.* does not teach or suggest a plurality of temperature sensors that proximally sense temperature characteristics of a semiconductor reticle *during an exposure cycle*. The Examiner cites col. 8, lines 41-43 of Miyai *et al.* to teach this claimed limitation of the subject invention. However, this section of Miyai *et al.* is not directed to sensors that proximally sense temperature characteristics of a semiconductor reticle *during an exposure cycle*. Instead this section discloses “a

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plurality of photoelectric sensors...having sensitivity...so as to detect temperature.”

Thus, Miyai *et al.* does not even mention temperature detection that *occurs during an exposure cycle* as recited in the subject claims.

Thus, for at least the aforementioned reasons, Miyai *et al.* does not teach or suggest the subject invention as recited in independent claims 1, 12, 17 and 23 (and claims 2-11, 13-16, 18-22, and 24-25 which respectively depend therefrom). Hence, this rejection should be withdrawn.

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IV. Conclusion

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,

AMIN & TUROCY, LLP



Himanshu S. Amin

Reg. No. 40,894

AMIN & TUROCY, LLP
24TH Floor, National City Center
1900 E. 9TH Street
Cleveland, Ohio 44114
Telephone (216) 696-8730
Facsimile (216) 696-8731